



**Fulcrum Environmental**

Ryan Mathews  
406 N. 2nd Street  
Yakima, WA 98901

**RE: Kennewick SD Drinking Water - Southgate Elementary**  
**Work Order Number: 1701233**

January 24, 2017

**Attention Ryan Mathews:**

Fremont Analytical, Inc. received 26 sample(s) on 1/23/2017 for the analyses presented in the following report.

***Drinking Water Metals by EPA Method 200.8***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward  
Project Manager



**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate  
**Work Order:** 1701233

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1701233-001	SGE12117-P-CF-07	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-002	SGE12117-P-OF-09	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-003	SGE12117-P-CDF-10	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-004	SGE12117-S-CDF-10	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-005	SGE12117-T-CDF-10	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-006	SGE12117-P-NF-11	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-007	SGE12117-P-CDF-15	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-008	SGE12117-P-CF-23	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-009	SGE12117-P-CF-25	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-010	SGE12117-P-CF-29	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-011	SGE12117-S-CF-29	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-012	SGE12117-T-CF-29	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-013	SGE12117-P-CDF-30	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-014	SGE12117-P-CDF-31	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-015	SGE12117-P-CF-32	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-016	SGE12117-S-CF-32	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-017	SGE12117-T-CF-32	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-018	SGE12117-P-CF-35	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-019	SGE12117-P-OF-41	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-020	SGE12117-P-CDF-42	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-021	SGE12117-P-CDF-43	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-022	SGE12117-P-CF-49	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-023	SGE12117-P-CDF-50	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-024	SGE12117-P-CDF-51a	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-025	SGE12117-P-CDF-51b	01/21/2017 9:15 AM	01/23/2017 12:25 PM
1701233-026	SGE12117-P-CDF-48	01/21/2017 9:15 AM	01/23/2017 12:25 PM

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**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate Elementary

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## WorkOrder Narrative:

## I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

## II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

## III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

## Prep Sample Comments:

1701233-001A 202777: Prep Comments for EPA200.8, Sample 1701233-001A: Turbidity: 0.01 NTU  
1701233-002A 202778: Prep Comments for EPA200.8, Sample 1701233-002A: Turbidity: 0.10 NTU  
1701233-003A 202779: Prep Comments for EPA200.8, Sample 1701233-003A: Turbidity: 0.00 NTU  
1701233-006A 202780: Prep Comments for EPA200.8, Sample 1701233-006A: Turbidity: 0.00 NTU  
1701233-007A 202781: Prep Comments for EPA200.8, Sample 1701233-007A: Turbidity: 0.00 NTU  
1701233-008A 202782: Prep Comments for EPA200.8, Sample 1701233-008A: Turbidity: 0.05 NTU  
1701233-009A 202783: Prep Comments for EPA200.8, Sample 1701233-009A: Turbidity: 0.00 NTU  
1701233-010A 202784: Prep Comments for EPA200.8, Sample 1701233-010A: Turbidity: 0.09 NTU  
1701233-013A 202785: Prep Comments for EPA200.8, Sample 1701233-013A: Turbidity: 0.01 NTU  
1701233-014A 202789: Prep Comments for EPA200.8, Sample 1701233-014A: Turbidity: 0.01 NTU  
1701233-015A 202790: Prep Comments for EPA200.8, Sample 1701233-015A: Turbidity: 0.03 NTU  
1701233-018A 202791: Prep Comments for EPA200.8, Sample 1701233-018A: Turbidity: 0.13 NTU  
1701233-019A 202792: Prep Comments for EPA200.8, Sample 1701233-019A: Turbidity: 0.07 NTU  
1701233-020A 202793: Prep Comments for EPA200.8, Sample 1701233-020A: Turbidity: 0.01 NTU  
1701233-021A 202794: Prep Comments for EPA200.8, Sample 1701233-021A: Turbidity: 0.01 NTU  
1701233-022A 202795: Prep Comments for EPA200.8, Sample 1701233-022A: Turbidity: 0.03 NTU  
1701233-023A 202796: Prep Comments for EPA200.8, Sample 1701233-023A: Turbidity: 0.01 NTU  
1701233-024A 202797: Prep Comments for EPA200.8, Sample 1701233-024A: Turbidity: 0.19 NTU  
1701233-025A 202932: Prep Comments for EPA200.8, Sample 1701233-025A: Turbidity: 0.01 NTU  
1701233-026A 202936: Prep Comments for EPA200.8, Sample 1701233-026A: Turbidity: 0.01 NTU

### Qualifiers:

- \* - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

### Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate Elementary

**Lab ID:** 1701233-001      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CF-07      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15996      Analyst: TN

Copper	714	0.500		µg/L	1	1/23/2017 5:38:46 PM
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**Lab ID:** 1701233-002      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-OF-09      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15996      Analyst: TN

Copper	949	0.500		µg/L	1	1/23/2017 5:42:23 PM
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**Lab ID:** 1701233-003      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CDF-10      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15996      Analyst: TN

Copper	1,040	0.500		µg/L	1	1/23/2017 5:45:59 PM
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**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate Elementary

**Lab ID:** 1701233-006      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-NF-11      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15996      Analyst: TN

Copper	1,120	0.500		µg/L	1	1/23/2017 5:49:35 PM
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**Lab ID:** 1701233-007      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CDF-15      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15996      Analyst: TN

Copper	1,570	0.500		µg/L	1	1/23/2017 5:53:12 PM
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**Lab ID:** 1701233-008      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CF-23      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15996      Analyst: TN

Copper	764	0.500		µg/L	1	1/23/2017 5:56:48 PM
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**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate Elementary

**Lab ID:** 1701233-009      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CF-25      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15996      Analyst: TN

Copper	692	0.500		µg/L	1	1/23/2017 6:00:24 PM
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**Lab ID:** 1701233-010      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CF-29      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15996      Analyst: TN

Copper	1,280	0.500		µg/L	1	1/23/2017 6:04:00 PM
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**Lab ID:** 1701233-013      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CDF-30      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15997      Analyst: TN

Copper	1,160	0.500		µg/L	1	1/23/2017 6:28:07 PM
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**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate Elementary

**Lab ID:** 1701233-014      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CDF-31      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15997      Analyst: TN

Copper	1,000	0.500		µg/L	1	1/23/2017 6:42:31 PM
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**Lab ID:** 1701233-015      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CF-32      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15997      Analyst: TN

Copper	1,310	0.500		µg/L	1	1/23/2017 6:46:07 PM
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**Lab ID:** 1701233-018      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CF-35      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15997      Analyst: TN

Copper	1,920	0.500		µg/L	1	1/23/2017 6:49:44 PM
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**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate Elementary

**Lab ID:** 1701233-019      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-OF-41      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15997      Analyst: TN

Copper	1,170	0.500		µg/L	1	1/23/2017 6:53:20 PM
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**Lab ID:** 1701233-020      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CDF-42      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15997      Analyst: TN

Copper	1,010	0.500		µg/L	1	1/23/2017 7:04:11 PM
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**Lab ID:** 1701233-021      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CDF-43      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15997      Analyst: TN

Copper	1,050	0.500		µg/L	1	1/23/2017 7:07:48 PM
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**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate Elementary

**Lab ID:** 1701233-022      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CF-49      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15997      Analyst: TN

Copper	809	0.500		µg/L	1	1/23/2017 7:11:24 PM
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**Lab ID:** 1701233-023      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CDF-50      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15997      Analyst: TN

Copper	888	0.500		µg/L	1	1/23/2017 7:15:00 PM
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**Lab ID:** 1701233-024      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CDF-51a      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 15997      Analyst: TN

Copper	740	0.500		µg/L	1	1/23/2017 7:18:37 PM
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**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate Elementary

**Lab ID:** 1701233-025      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CDF-51b      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 16006      Analyst: TN

Copper	ND	0.500		µg/L	1	1/23/2017 11:56:34 PM
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**Lab ID:** 1701233-026      **Collection Date:** 1/21/2017 9:15:00 AM  
**Client Sample ID:** SGE12117-P-CDF-48      **Matrix:** Drinking Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Drinking Water Metals by EPA Method 200.8**

Batch ID: 16006      Analyst: TN

Copper	1,150	0.500	B	µg/L	1	1/24/2017 12:18:14 AM
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**Work Order:** 1701233  
**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate

**QC SUMMARY REPORT**  
**Drinking Water Metals by EPA Method 200.8**

Sample ID <b>MB-16006</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>			Prep Date: <b>1/23/2017</b>	RunNo: <b>34027</b>					
Client ID: <b>MBLKW</b>	Batch ID: <b>16006</b>				Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647625</b>					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 1.99 0.500

Sample ID <b>LCS-16006</b>	SampType: <b>LCS</b>	Units: <b>µg/L</b>			Prep Date: <b>1/23/2017</b>	RunNo: <b>34027</b>					
Client ID: <b>LCSW</b>	Batch ID: <b>16006</b>				Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647626</b>					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 92.5 0.500 100.0 0 92.5 85 115

Sample ID <b>1701233-025ADUP</b>	SampType: <b>DUP</b>	Units: <b>µg/L</b>			Prep Date: <b>1/23/2017</b>	RunNo: <b>34027</b>					
Client ID: <b>SGE12117-P-CDF-51b</b>	Batch ID: <b>16006</b>				Analysis Date: <b>1/24/2017</b>	SeqNo: <b>647630</b>					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper ND 0.500 0 30

Sample ID <b>1701233-025AMS</b>	SampType: <b>MS</b>	Units: <b>µg/L</b>			Prep Date: <b>1/23/2017</b>	RunNo: <b>34027</b>					
Client ID: <b>SGE12117-P-CDF-51b</b>	Batch ID: <b>16006</b>				Analysis Date: <b>1/24/2017</b>	SeqNo: <b>647631</b>					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 167 0.500 200.0 0 83.7 70 130

Sample ID <b>1701233-025AMSD</b>	SampType: <b>MSD</b>	Units: <b>µg/L</b>			Prep Date: <b>1/23/2017</b>	RunNo: <b>34027</b>					
Client ID: <b>SGE12117-P-CDF-51b</b>	Batch ID: <b>16006</b>				Analysis Date: <b>1/24/2017</b>	SeqNo: <b>647632</b>					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 186 0.500 200.0 0 92.9 70 130 167.5 10.4 30

**Work Order:** 1701233  
**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate

**QC SUMMARY REPORT**  
**Drinking Water Metals by EPA Method 200.8**

Sample ID <b>MB-15997</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34024</b>							
Client ID: <b>MBLKW</b>	Batch ID: <b>15997</b>	Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647478</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper ND 0.500

Sample ID <b>LCS-15997</b>	SampType: <b>LCS</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34024</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>15997</b>	Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647479</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 87.4 0.500 100.0 0 87.4 85 115

Sample ID <b>1701233-013ADUP</b>	SampType: <b>DUP</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34024</b>							
Client ID: <b>SGE12117-P-CDF-30</b>	Batch ID: <b>15997</b>	Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647481</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 1,130 0.500 1,157 2.37 30

Sample ID <b>1701233-013AMS</b>	SampType: <b>MS</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34024</b>							
Client ID: <b>SGE12117-P-CDF-30</b>	Batch ID: <b>15997</b>	Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647482</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 1,230 0.500 200.0 1,157 35.0 70 130 S

**NOTES:**

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID <b>1701233-013AMSD</b>	SampType: <b>MSD</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34024</b>							
Client ID: <b>SGE12117-P-CDF-30</b>	Batch ID: <b>15997</b>	Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647483</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 1,260 0.500 200.0 1,157 50.7 70 130 1,227 2.53 30 S

**NOTES:**

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

**Work Order:** 1701233  
**CLIENT:** Fulcrum Environmental  
**Project:** Kennewick SD Drinking Water - Southgate

**QC SUMMARY REPORT**  
**Drinking Water Metals by EPA Method 200.8**

Sample ID <b>MB-15996</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34023</b>							
Client ID: <b>MBLKW</b>	Batch ID: <b>15996</b>	Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647430</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper ND 0.500

Sample ID <b>LCS-15996</b>	SampType: <b>LCS</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34023</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>15996</b>	Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647431</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 90.6 0.500 100.0 0 90.6 85 115

Sample ID <b>1701204-001ADUP</b>	SampType: <b>DUP</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34023</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>15996</b>	Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647433</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 21.1 0.500 22.00 4.04 30

Sample ID <b>1701204-001AMS</b>	SampType: <b>MS</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34023</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>15996</b>	Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647434</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 207 0.500 200.0 22.00 92.5 70 130

Sample ID <b>1701204-001AMSD</b>	SampType: <b>MSD</b>	Units: <b>µg/L</b>	Prep Date: <b>1/23/2017</b>	RunNo: <b>34023</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>15996</b>	Analysis Date: <b>1/23/2017</b>	SeqNo: <b>647435</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper 207 0.500 200.0 22.00 92.7 70 130 207.0 0.202 30

Client Name: **FE**  
 Logged by: **Erica Silva**

Work Order Number: **1701233**  
 Date Received: **1/23/2017 12:25:00 PM**

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Client

### Log In

3. Coolers are present? Yes  No  NA   
 4. Shipping container/cooler in good condition? Yes  No   
 5. Custody Seals present on shipping container/cooler?  
 (Refer to comments for Custody Seals not intact) Yes  No  Not Required   
 6. Was an attempt made to cool the samples? Yes  No  NA   
 7. Were all items received at a temperature of >0°C to 10.0°C\* Yes  No  NA

### Samples received at appropriate temperature

8. Sample(s) in proper container(s)? Yes  No   
 9. Sufficient sample volume for indicated test(s)? Yes  No   
 10. Are samples properly preserved? Yes  No   
 11. Was preservative added to bottles? Yes  No  NA   
 HNO3 to 004A, 005A, 011A, 012A, 016A, 017A  
 12. Is there headspace in the VOA vials? Yes  No  NA   
 13. Did all samples containers arrive in good condition(unbroken)? Yes  No   
 14. Does paperwork match bottle labels? Yes  No   
 15. Are matrices correctly identified on Chain of Custody? Yes  No   
 16. Is it clear what analyses were requested? Yes  No   
 17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text" value="Amanda Enbysk"/>	Date:	<input type="text" value="1/23/2017"/>
By Whom:	<input type="text" value="Erica Silva"/>	Via:	<input checked="" type="checkbox"/> eMail <input checked="" type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input "p-cdf-48"="" 51"="" bottle="" labeled="" one="" received"="" received,="" type="text" value="Two bottles labeled "/>		
Client Instructions:	<input "48"="" "51b"="" 51a"="" add="" and="" both,="" coc="" one="" run="" run"="" to="" type="text" value="Designate one "/>		

19. Additional remarks:

### Item Information

Item #	Temp °C
Cooler	11.3
Sample	9.7

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C





# Fremont Analytical

3600 Fremont Ave N.  
Seattle, WA 98103

Tel: 206-352-3790  
Fax: 206-352-7178

Client: Fulcrum Environmental Consulting  
Address: 406 North Second Street  
City, State, Zip: Yakima, WA 98901  
Telephone: 509.574.0839

Fax: 509.545.8453

Project Name: Southgate Elementary, Kennewick SD Drinking Water - Southgate Elementary  
Project No: 162017  
Location: Southgate Elementary, Kennewick, WA  
Report To (PM): Ryan Mathews  
PM Email: rmathews@fulcrum.net; cc: aenbysk@fulcrum.net

Date: 1/21/2017

Laboratory Project No (Internal): 1701283  
Page: 3 of 3

## Chain of Custody Record and Laboratory Services Agreement

\*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCS (EPA 8260 / 624)	GW/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T)   Dissolved (D)	Anions (IC)***	EDB (8011)	Comments	
SGE12117-P-CF-07	1/21/2017	0915	DW														HNO3 preserved	
SGE12117-P-OF-09																		
SGE12117-P-COF-10																		
SGE12117-T-COF-10																		
SGE12117-P-NF-11																		
SGE12117-P-COF-15																		
SGE12117-P-CF-23																		
SGE12117-P-CF-25																		
SGE12117-P-CF-29																		

**Metals Analysis (Circle):	MTC-A-5	RCRA-8	Priority Pollutants	TAL	Individual:	Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	Hg	K	Mg	Mn	Mo	Na	Ni	Pb	Sb	Se	Sr	Sn	Ti	U	V	Zn		
SGE12117-P-CF-07																																		
SGE12117-P-OF-09																																		
SGE12117-P-COF-10																																		
SGE12117-T-COF-10																																		
SGE12117-P-NF-11																																		
SGE12117-P-COF-15																																		
SGE12117-P-CF-23																																		
SGE12117-P-CF-25																																		
SGE12117-P-CF-29																																		

\*\*\*Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite  
 Sample Disposal:  Return to Client  Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
<u>Amada Moly</u>	<u>1/21/2017, 1600</u>	<u>Amada Moly</u>	<u>1/23/17 1725</u>
<u>Amada Moly</u>	<u>1/21/2017, 1600</u>	<u>Amada Moly</u>	<u>1/23/17 1725</u>





**Fremont**  
Analytical

3600 Fremont Ave N.  
Seattle, WA 98103

Tel: 206-352-3790  
Fax: 206-352-7178

**Chain of Custody Record and Laboratory Services Agreement**

Fulcrum Environmental Consulting

406 North Second Street

Yakima, WA 98901

Telephone: 509.574.0839

Fax: 509.545.8453

PM Email:

rmathews@fulcrum.net; cc: aenbysk@fulcrum.net

Project Name: 162017

Project No: 162017

Location:

Southgate Elementary, Kennewick, WA

Report To (PM):

Ryan Mathews

Collected by:

1/21/2017  
Page: 2 of 3  
701233

\*Matrix Codes: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T)   Dissolved (D)	Anions (C)***	EDB (8011)	Comments
SGE12117-S-CF-29	1/17	0915	DW														HOLD; unpreserved
SGE12117-T-CF-29																	HOLD; unpreserved
SGE12117-P-CF-30																	HNO <sub>3</sub> preserved
SGE12117-P-CF-31																	HNO <sub>3</sub> preserved
SGE12117-P-CF-32																	HOLD; unpreserved
SGE12117-S-CF-32																	HOLD; unpreserved
SGE12117-T-CF-32																	HNO <sub>3</sub> preserved
SGE12117-P-CF-35																	HNO <sub>3</sub> preserved
SGE12117-P-CF-41																	HNO <sub>3</sub> preserved
SGE12117-P-CF-42																	HNO <sub>3</sub> preserved

\*\*Metals Analysis (Circle): MTCAS-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Tl U V Zn

\*\*\*Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Sample Disposal:  Return to Client  Disposal by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

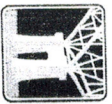
Relinquished Date/Time: 1/21/2017 11:00 Received Date/Time: 1/23/17 12:25

Relinquished Date/Time: 1/23/2017 12:25 Received Date/Time: 1/23/17 12:25

Signature: [Handwritten Signature] Date/Time: 1/23/17 12:25

Special Remarks: Please preserve all unpreserved samples. TAT: ASAP





# Fremont

3600 Fremont Ave N.  
Seattle, WA 98103

Tel: 206-352-3790  
Fax: 206-352-7178

Client: Fulcrum Environmental Consulting  
Address: 406 North Second Street  
City, State, Zip: Yakima, WA 98901  
Telephone: 509.574.0839

Fax: 509.545.8453

Project Name: Kennewick SD Drinking Water - Southgate Elementary  
Project No: 162017  
Location: Southgate Elementary, Kennewick, WA  
Report To (PM): Ryan Mathews  
PM Email: rmathews@fulcrum.net; cc: aenbysk@fulcrum.net

Date: 1/21/2017

Laboratory Project No (Internal): 1701233

Page: 3 of 3

Collected by: Amanda Enyik & Nathan Bostrom

## Chain of Custody Record and Laboratory Services Agreement

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCD)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (C)***	EDB (6011)	Comments
SGE12117-P-COF-43	1/21/17	0915	DW														HNO3 preserved
SGE12117-P-CF-49																	
SGE12117-P-COF-50																	
SGE12117-P-COF-51a																	
SGE12117-P-COF-51b																	
SGE12117-P-COF-48																	

\*\*Metals Analysis (Circle): MTCAS Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate-Nitrite  
 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti U V Zn  
 \*\*\*Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate-Nitrite  
 Turn-around times for samples received after 4:00pm will begin on the following business day.

Sample Disposal:  Return to Client  Disposed by Lab (Samples will be held for 30 days unless otherwise noted. A fee may be assessed if samples are retained after 30 days.)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished: Amada Enyik Date/Time: 1/21/2017 1000 Received: [Signature] Date/Time: 1/23/17 1225  
 Relinquished: [Signature] Date/Time: 1/23/2017, 1205 Received: [Signature] Date/Time: 1/23/17 1225